

# 9th Edition Stretch Code Modeling Analysis

2550 sq.ft. 3 BR Single Family Home with Natural Gas Heat  
Worcester, MA



HERS Index	
Target	55
Example Base	61
Example Stretch	53

## Incremental Costs and Benefits to Meet Stretch Code 0.25% of Total Construction Cost<sup>4</sup>

	COSTS		BENEFITS	NET	
BUILDER	Adjustments + HERS Rater Fee		Utility Rebates <sup>1</sup>	Cost Compared to Base Code	
	-\$2,216		+\$1,203	-\$1,013	
HOMEBUYER	Change to Downpayment <sup>3</sup>	Change to Annual Mortgage Payment <sup>3</sup>	Estimated Reduced Energy Cost per Year <sup>2</sup>	Year 1 Cash Flow	Year 2+ Cash Flow
	-\$101	-\$81	+\$119	-\$63	+\$38

1 – Incentives are determined using the Pay For Savings calculator. Savings compared to MA reference home.

PFS Incentive = \$0.50 \* kWh savings + \$50 \* MMBtu savings + \$4000 \* 0.xx percent savings (single family home)

2 – Energy costs are based on \$0.25/kWh, \$1.21/therm, \$2.90/gal propane, \$2.88/gal oil. Savings are compared with Base Code home.

3 – 30-year mortgage assumes 10% down payment at 4% APR.

4 – NAHB New Contractor Built Median Cost Per Square Foot in North East US (2017) \$161.53



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## Breakdown of Incremental Construction Costs to Meet Stretch Code

FEATURE	Base Code	Stretch Code	Construction Cost
HERS RATING	61	53	\$500
WINDOWS (U-VALUE/SHGC)	.30/.30	.27/.30	\$500
HEATING	95% gas furnace	96% gas furnace	\$100
COOLING	13 SEER	15 SEER	\$392
DHW	0.62 EF 40 Gallon tank Gas	0.96 EF Tankless Gas	\$724
DUCT LEAKAGE TO OUTSIDE	4 CFM25 / 100 CFA	2 CFM25 / 100 CFA	\$0
HIGH EFFICACY LIGHTING	100% LED	No change required	\$0
AIR INFILTRATION	3.0 ACH50	No change required	\$0
FOUNDATION	Unconditioned, uninsulated basement	No change required	\$0
FLOOR	R38 fiberglass Grade 1	No change required	\$0
WALLS	R21 fiberglass Grade 1	No change required	\$0
CEILING – FLAT	R-50 blown in cellulose	No change required	\$0
<b>TOTAL</b>			<b>\$2,216</b>